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Set	Items	Description
S1	103355	(RENDER? OR CREAT? OR GENERAT? OR COMPOS?) AND GRAPHIC?
S2	5378	(POLYGON? OR TRIANGLE?) AND MESH?
S3	7330	(SILHOUETTE OR SHARP OR DISCONTINUITY?) AND EDGES
S4	691	(DELET? OR OMITTING OR EDIT?) AND CONCAVE
S5	1607	(DETECT? OR FIND? OR LOCAT? OR SORT OR SORTING) AND S3
S6	470	OVERDRAW? OR OVER()DRAW?
S7	1355	(ANTIALIAS? OR ANTI-ALIAS?) AND IMAGE?
S8	1	CRAWLING()JAGGIES
S9	872967	BLEND? OR SHADING OR SMOOTH?
S10	4717	AU=(SANDER, P? OR SANDER P? OR HOPPE H? OR HOPPE, H? OR S- NYDER, J? OR SNYDER J? OR GORTLER S? OR GORTLER, S?)
S11	0	S1 AND S2 AND S3 AND S4
S12	16	S1 AND S2 AND S3
S13	1	S12 AND S6
S14	1	S1 AND S2 AND S6
S15	0	S14 NOT (S8 OR S13)

S16	15	S12 NOT S13
S17	3	S16 AND S7
S18	2	RD S17 (unique items)
S19	22	S2 AND S10
S20	19	S19 NOT (S8 OR S12)
S21	15	S20 NOT PY=>2002
S22	8	RD S21 (unique items)

8/3,K/1 (Item 1 from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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05844484 E.I. No: EIP01266561139

Title: **Discontinuity edge overdraw**

Author: Sander, P.V.; Hoppe, H.; Snyder, J.; Gortler, S.J.

Corporate Source: Harvard University, Cambridge, MA, United States

Conference Title: 2001 Symposium on Interactive 3D Graphics

Conference Location: Research Triangle Park, NC, United States

Conference Date: 20010319-20010321

E.I. Conference No.: 58197

Source: Proceedings of the Symposium on Interactive 3D Graphics 2001. p
167-174

Publication Year: 2001

Language: English

...Abstract: by depth. Our approach proves surprisingly effective at
reducing temporal artifacts commonly referred to as " **crawling jaggies**
", with little added cost. 34 Refs.

13/3,K/1 (Item 1 from file: 8)
DIALOG(R)File 8: Ei Compendex(R)
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05844484 E.I. No: EIP01266561139

Title: Discontinuity **edge** overdraw

Author: Sander, P.V.; Hoppe, H.; Snyder, J.; Gortler, S.J.

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Conference Date: 20010319-20010321

E.I. Conference No.: 58197

Source: Proceedings of the Symposium on Interactive 3D Graphics 2001. p
167-174

Publication Year: 2001

Language: English

Title: Discontinuity **edge** overdraw

Abstract: Aliasing is an important problem when **rendering triangle meshes**. Efficient antialiasing techniques such as mipmapping greatly improve the filtering of textures defined over a **mesh**. A major component of the remaining aliasing occurs along **discontinuity edges** such as silhouettes, creases, and material boundaries. Framebuffer supersampling is a simple remedy, but 2...

...demands even more fill-rate and memory. We present an alternative that focuses effort on **discontinuity edges** by **overdrawing** such **edges** as antialiased lines. Although the idea is simple, several subtleties arise. Visible **silhouette edges** must be detected efficiently. **Discontinuity edges** need consistent orientations. They must be blended as they approach the **silhouette** to avoid popping. Unfortunately, edge blending results in blurriness. Our technique balances these two competing objectives of temporal smoothness and spatial sharpness. Finally, the best results are obtained when **discontinuity edges** are sorted by depth. Our approach proves surprisingly effective at reducing temporal artifacts commonly referred...

Descriptors: Computer **graphics**; Computational geometry; Computer hardware; Image analysis; Buffer storage; Sampling

?

18/3,K/1 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2003 Institution of Electrical Engineers. All rts. reserv.

6886607 INSPEC Abstract Number: B2001-05-6135E-097, C2001-05-6130B-036

Title: Silhouette clipping

Author(s): Sander, P.V.; Xianfeng Gu; Gortler, S.J.; Hoppe, H.; Snyder, J.

Conference Title: Computer Graphics Proceedings. Annual Conference Series 2000. SIGGRAPH 2000. Conference Proceedings p.327-34

Publisher: ACM, New York, NY, USA

Publication Date: 2000 Country of Publication: USA 547 pp.

ISBN: 1 58113 208 5 Material Identity Number: XX-2000-02099

U.S. Copyright Clearance Center Code: 1 58113 208 5/2000/0007\$5.00

Conference Title: Proceedings of SIGGRAPH'00: 27th International Conference on Computer Graphics and Interactive Techniques Conference

Conference Sponsor: ACM

Conference Date: 23-28 July 2000 Conference Location: New Orleans, LA, USA

Language: English

Subfile: B C

Copyright 2001, IEE

Title: Silhouette clipping

Abstract: Approximating detailed models with coarse, texture-mapped meshes results in polygonal silhouettes. To eliminate this artifact, we introduce silhouette clipping, a framework for efficiently clipping the rendering of coarse geometry to the exact silhouette of the original model. The coarse mesh is obtained using progressive hulls, a novel representation with the nesting property required for proper clipping. We describe an improved technique for constructing texture and normal maps over this coarse mesh. Given a perspective view, silhouettes are efficiently extracted from the original mesh using a precomputed search tree. Within the tree, hierarchical culling is achieved using pairs of anchored cones. The extracted silhouette edges are used to set the hardware stencil buffer and alpha buffer, which in turn clip and antialias the rendered coarse geometry. Results demonstrate that silhouette clipping can produce renderings of similar quality to high-resolution meshes in less rendering time.

...Descriptors: image texture...

... mesh generation ; ...

... rendering (computer graphics)

Identifiers: silhouette clipping...

...coarse texture-mapped meshes ; ...

... polygonal silhouettes...

...geometry rendering ; ...

...coarse mesh ; ...

... silhouette edge extraction...

... rendered coarse geometry...

...high-resolution meshes ; ...

... rendering time

18/3,K/2 (Item 1 from file: 6)
DIALOG(R)File 6:NTIS
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1321183 NTIS Accession Number: DE87007054

Shadow Mask Sweep Family of Shadow Algorithms

Grant, C. W.

California Univ., Davis.

Corp. Source Codes: 004365000; 1121000

Sponsor: Lawrence Livermore National Lab., CA.; Department of Energy,
Washington, DC.

Report No.: UCRL-95948; CONF-870738-1

13 Jan 87 29p

Languages: English Document Type: Conference proceeding

Journal Announcement: GRAI8722; NSA1200

ACM SIGGRAPH conference, Anaheim, CA, USA, 27 Jul 1987.

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The Shadow Mask Sweep (SMS) family of algorithms is a new **image**
synthesis technique for **generating** shadows. The SMS technique is based
on the painter's algorithm for visible surface determination. The
antialiased version of the painter's algorithm is based on **antialiased**
digital raster **compositing** techniques. These **compositing** techniques
have previously assumed that the **edges** of the objects represented in the
rasters were uncorrelated. This causes problems **compositing** objects
modeled with primitives with correlated **edges**. These objects are common
in **image** synthesis, such as **meshes** of **polygons**. It was desired to
produce a shadow algorithm that could handle both primitives with
correlated and uncorrelated **edges** in the same **image**. To do this it was
necessary to develop new **compositing** techniques. A new technique for
correlated **edges** is combined with an extension of the existing
uncorrelated edge technique producing a system that...

...s algorithm is extended to correct operation with both types of
primitives using these new **compositing** techniques. Applying the painter's
algorithm simultaneously to both visible surface and shadow determination
yields the SMS technique. Algorithms based on the SMS technique are
suitable for all opaque '**sharp edged**' primitives than can be **rendered**
with the painter's algorithm and all opaque or transparent '**fuzzy**'
primitives that can be **rendered** with the painter's algorithm. Primitives
and combinations of primitives which previously had no efficient, general
shadow algorithms, such as particle systems and nonuniform density
translucent volumes can now be **rendered** efficiently using the SMS
technique. (ERA citation 12:034442)

Descriptors: Computer **Graphics** ; * **Image** Processing; **Images** ;
Algorithms; **Shading**

?

22/3,K/1 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2003 Institution of Electrical Engineers. All rts. reserv.

6581831 INSPEC Abstract Number: C2000-06-6130B-057

Title: Optimization of mesh locality for transparent vertex caching

Author(s): Hoppe, H.

Author Affiliation: Microsoft Corp., Redmond, WA, USA

Conference Title: Computer Graphics Proceedings. SIGGRAPH 99 p.269-76

Publisher: ACM, New York, NY, USA

Publication Date: 1999 Country of Publication: USA 463 pp.

ISBN: 0 201 48560 5 Material Identity Number: XX-1999-02176

U.S. Copyright Clearance Center Code: 0 201 48560 5/99/08...\$5.00

Conference Title: Proceedings of SIGGRAPH 99: 26th International Conference on Computer Graphics and Interactive Techniques

Conference Sponsor: ACM Special Interest Group on Comput. Graphics

Conference Date: 8-13 Aug. 1999 Conference Location: Los Angeles, CA, USA

Language: English

Subfile: C

Copyright 2000, IEE

Title: Optimization of mesh locality for transparent vertex caching

Author(s): Hoppe, H.

...Abstract: traffic between the graphics subsystem and memory can become a bottleneck when rendering geometrically complex **meshes**. In this paper, we investigate the use of vertex caching to transparently reduce geometry bandwidth. The use of an indexed **triangle** strip representation permits application programs to animate the **meshes** at video rates, and provides backward compatibility on legacy hardware. The efficiency of vertex caching is maximized by reordering the faces in the **mesh** during a preprocess. We present two reordering techniques, a fast greedy strip-growing algorithm and...

... face ordering. The resulting cache miss rates are comparable to the efficiency of the earlier **mesh** buffer scheme described by Deering and Chow, even though the vertex cache is not actively...

Identifiers: **mesh** locality optimisation...

...geometrically complex **meshes** ; ...

...indexed **triangle** strip representation...

... **mesh** buffer scheme

22/3,K/2 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

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6581807 INSPEC Abstract Number: C2000-06-6130B-034

Title: Robust mesh watermarking

Author(s): Praun, E.; Hoppe, H. ; Finkelstein, A.

Author Affiliation: Princeton Univ., NJ, USA

Conference Title: Computer Graphics Proceedings. SIGGRAPH 99 p.49-56

Publisher: ACM, New York, NY, USA

Publication Date: 1999 Country of Publication: USA 463 pp.

ISBN: 0 201 48560 5 Material Identity Number: XX-1999-02176

U.S. Copyright Clearance Center Code: 0 201 48560 5/99/08...\$5.00

Conference Title: Proceedings of SIGGRAPH 99: 26th International

Conference on Computer Graphics and Interactive Techniques
Conference Sponsor: ACM Special Interest Group on Comput. Graphics
Conference Date: 8-13 Aug. 1999 Conference Location: Los Angeles, CA,
USA

Language: English
Subfile: C
Copyright 2000, IEE

Title: Robust mesh watermarking

Author(s): Praun, E.; Hoppe, H. ; Finkelstein, A.

Abstract: We describe a robust method for watermarking **triangle meshes**. Watermarking provides a mechanism for copyright protection of digital media by embedding information identifying the...

... functions. We extend this spread-spectrum approach to work for the robust watermarking of arbitrary **triangle meshes**. Generalizing spread spectrum techniques to surfaces presents two major challenges. First, arbitrary surfaces lack a...

... based decomposition. Our solution is to construct a set of scalar basis function over the **mesh** vertices using multiresolution analysis. The watermark perturbs vertices along the direction of the surface normal...

...The second challenge is that simplification and other attacks may modify the connectivity of the **mesh**. We use an optimization technique to resample an attacked **mesh** using the original **mesh** connectivity. Results show that our watermarks are resistant to common **mesh** operations such as translation, rotation, scaling, cropping, smoothing, simplification, and resampling, as well as malicious...

...Identifiers: **triangle meshes** ;

22/3,K/3 (Item 3 from file: 2)

DIALOG(R)File 2:INSPEC

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6452415 INSPEC Abstract Number: C2000-02-6130B-019

Title: New quadric metric for simplifying meshes with appearance attributes

Author(s): Hoppe, H.

Conference Title: Proceedings Visualization '99 (Cat. No.99CB37067) p.
59-510

Editor(s): Ebert, D.; Gross, M.; Hamann, B.

Publisher: IEEE, Piscataway, NJ, USA

Publication Date: 1999 Country of Publication: USA 565 pp.

ISBN: 0 7803 5897 X Material Identity Number: XX-1999-03285

U.S. Copyright Clearance Center Code: 0 7803 5897 X/99/\$10.00

Conference Title: Proceedings Visualization '99

Conference Sponsor: IEEE Comput. Soc. Tech. Committee on Comput. Graphics
; ACM SIGGRAPH

Conference Date: 24-29 Oct. 1999 Conference Location: San Francisco,
CA, USA

Language: English

Subfile: C

Copyright 1999, IEE

Title: New quadric metric for simplifying meshes with appearance attributes

Author(s): Hoppe, H.

Abstract: Complex **triangle meshes** arise naturally in many areas of

computer graphics and visualization. Previous work has shown that a quadric error metric allows fast and accurate geometric simplification of **meshes**. This quadric approach was recently generalized to handle **meshes** with appearance attributes. In this paper we present an improved quadric error metric for simplifying **meshes** with attributes. The new metric, based on geometric correspondence in 3D, requires less storage, evaluates more quickly, and results in more accurate simplified **meshes**. **Meshes** often have attribute discontinuities, such as surface creases and material boundaries, which require multiple attribute vectors per vertex. We show that a wedge-based **mesh** data structure captures such discontinuities efficiently and permits simultaneous optimization of these multiple attribute vectors...

... are beneficial within the quadric framework. The new scheme is demonstrated on a variety of **meshes** with colors and normals.

...Identifiers: complex **triangle meshes** ; ...

...wedge-based **mesh** data structure

22/3,K/4 (Item 4 from file: 2)

DIALOG(R) File 2:INSPEC

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6189223 INSPEC Abstract Number: C1999-04-7340-011

Title: **Smooth view-dependent level-of-detail control and its application to terrain rendering**

Author(s): Hoppe, H.

Conference Title: Proceedings Visualization '98 (Cat. No.98CB36276) p. 35-42, 516

Editor(s): Ebert, D.; Rushmeier, H.; Hagen, H.

Publisher: IEEE, Piscataway, NJ, USA

Publication Date: 1998 Country of Publication: USA 576 pp.

ISBN: 0 8186 9176 X Material Identity Number: XX-1998-02957

U.S. Copyright Clearance Center Code: 0 8186 9176 X/98/\$10.00

Conference Title: Proceedings of Visualization '98

Conference Sponsor: IEEE Comput. Soc. Tech. Committee on Comput. Graphics ; ACM SIGGRAPH

Conference Date: 18-23 Oct. 1998 Conference Location: Research Triangle Park, NC, USA

Language: English

Subfile: C

Copyright 1999, IEE

Author(s): Hoppe, H.

...Abstract: this problem of view-dependent level-of-detail control. Among these, the view-dependent progressive **mesh** (VDPM) framework represents an arbitrary **triangle mesh** as a hierarchy of geometrically optimized refinement transformations, from which accurate approximating **meshes** can be efficiently retrieved. In this paper we extend the general VDPM framework to provide...

... handle huge terrain grids, we introduce a block-based simplification scheme that constructs a progressive **mesh** as a hierarchy of block refinements. We demonstrate the need for an accurate approximation metric

...

...Identifiers: view-dependent progressive **mesh** framework...

...arbitrary **triangle mesh** ; ...

...accurate approximating meshes ;

22/3,K/5 (Item 5 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2003 Institution of Electrical Engineers. All rts. reserv.

6005992 INSPEC Abstract Number: C9810-6130B-028
Title: Efficient implementation of progressive meshes
Author(s): Hoppe, H.
Author Affiliation: Microsoft Corp., Redmond, WA, USA
Journal: Computers & Graphics vol.22, no.1 p.27-36
Publisher: Elsevier,
Publication Date: Jan.-Feb. 1998 Country of Publication: UK
CODEN: COGRD2 ISSN: 0097-8493
SICI: 0097-8493(199801/02)22:1L.27:EIPM;1-M
Material Identity Number: C186-98003
U.S. Copyright Clearance Center Code: 0097-8493/98/\$19.00+0.00
Language: English
Subfile: C
Copyright 1998, IEE

Title: Efficient implementation of progressive meshes
Author(s): Hoppe, H.
Abstract: In earlier work (H. Hoppe, 1996), we introduced the progressive mesh (PM) representation, a new format for storing and transmitting arbitrary triangle meshes. For a given mesh, the PM representation defines a continuous sequence of level-of-detail approximations, allows smooth visual...
...Descriptors: mesh generation
Identifiers: progressive meshes ; ...

...arbitrary triangle meshes ;

22/3,K/6 (Item 6 from file: 2)
DIALOG(R)File 2:INSPEC
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5773464 INSPEC Abstract Number: C9801-4260-039
Title: View-dependent refinement of progressive meshes
Author(s): Hoppe, H.
Conference Title: Computer Graphics Proceedings, SIGGRAPH 97 p.189-98
Publisher: ACM, New York, NY, USA
Publication Date: 1997 Country of Publication: USA 506 pp.
ISBN: 0 89791 896 7 Material Identity Number: XX97-01677
U.S. Copyright Clearance Center Code: 0 89791 896 7/97/008\$3.50
Conference Title: Proceedings of 24th International Conference on Computer Graphics and Interactive Techniques
Conference Sponsor: ACM
Conference Date: 3-8 Aug. 1997 Conference Location: Los Angeles, CA, USA
Language: English
Subfile: C
Copyright 1997, IEE

Title: View-dependent refinement of progressive meshes
Author(s): Hoppe, H.
...Abstract: an important tool for real-time rendering of complex geometric environments. The previously introduced progressive mesh

representation defines for an arbitrary **triangle mesh** a sequence of approximating **meshes** optimized for view-independent LOD. The paper introduces a framework for selectively refining an arbitrary progressive **mesh** according to changing view parameters. It defines efficient refinement criteria based on the view frustum...

... space geometric error, and develops a real-time algorithm for incrementally refining and coarsening the **mesh** according to these criteria. The algorithm exploits view coherence, supports frame rate regulation, and is...

... frames. In addition, smooth visual transitions (geomorphs) can be constructed between any two selectively refined **meshes**. A number of previous schemes create view-dependent LOD **meshes** for height fields (e.g. terrains) and parametric surfaces (e.g. NURBS). Our framework also...

... with existing schemes. The paper includes results for these cases as well as for general **meshes**.

...Descriptors: **mesh** generation

Identifiers: view-dependent **mesh** refinement...

...arbitrary **triangle mesh** ; ...

...progressive **mesh** representation...

...approximating **meshes** ;

22/3,K/7 (Item 7 from file: 2)

DIALOG(R)File 2:INSPEC

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5455817 INSPEC Abstract Number: C9702-4260-021

Title: Progressive meshes

Author(s): Hoppe, H.

Author Affiliation: Microsoft Corp., Redmond, WA, USA

Conference Title: Computer Graphics Proceedings. SIGGRAPH '96 p.99-108

Publisher: ACM, New York, NY, USA

Publication Date: 1996 Country of Publication: USA 528 pp.

ISBN: 0 89791 746 4 Material Identity Number: XX96-02088

U.S. Copyright Clearance Center Code: 0 89791 746 4/96/008.\$3.50

Conference Title: Proceedings of 23rd International Conference on Computer Graphics and Interactive Techniques (SIGGRAPH'96)

Conference Sponsor: ACM

Conference Date: 4-9 Aug. 1996 Conference Location: New Orleans, LA, USA

Language: English

Subfile: C

Copyright 1996, IEE

Title: Progressive meshes

Author(s): Hoppe, H.

...Abstract: geometric models are rapidly becoming commonplace in computer graphics. These models, often represented as complex **triangle meshes**, challenge rendering performance, transmission bandwidth, and storage capacities. This paper introduces the progressive **mesh** (PM) representation, a new scheme for storing and transmitting arbitrary **triangle meshes**. This efficient, lossless, continuous-resolution representation addresses several practical problems in graphics: smooth geomorphing of level-of-detail approximations, progressive transmission, **mesh** compression, and selective refinement. In addition, we present a new

mesh simplification procedure for constructing a PM representation from an arbitrary **mesh**. The goal of this optimization procedure is to preserve not just the geometry of the original **mesh**, but more importantly its overall appearance as defined by its discrete and scalar appearance attributes...

Descriptors: **mesh** generation...

...Identifiers: progressive **meshes** ; ...

... **triangle meshes** ; ...

... **mesh** compression...

... **mesh** simplification procedure

22/3,K/8 (Item 8 from file: 2)

DIALOG(R)File 2:INSPEC

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4706230 INSPEC Abstract Number: B9408-0290T-008, C9408-4185-015

Title: Mesh **optimization**

Author(s): **Hoppe, H.** ; DeRose, T.; Duchamp, T.; McDonald, J.; Stuetzle, W.

Author Affiliation: Dept. of Comput. Sci. & Eng., Washington Univ., Seattle, WA, USA

p.19-26

Publisher: ACM, New York, NY, USA

Publication Date: 1993 Country of Publication: USA 432 pp.

ISBN: 0 89791 601 8

U.S. Copyright Clearance Center Code: 0 89791 601 8/93/008/0019\$01.50

Conference Title: Proceeding of SIGGRAPH 20th Annual International Conference on Computer Graphics and Interactive Techniques. The Eye of Technology

Conference Sponsor: ACM

Conference Date: 1-6 Aug. 1993 Conference Location: Anaheim, CA, USA

Language: English

Subfile: B C

Title: Mesh **optimization**

Author(s): **Hoppe, H.** ; DeRose, T.; Duchamp, T.; McDonald, J.; Stuetzle, W.

...Abstract: problem: Given a set of data points scattered in three dimensions and an initial triangular **mesh** $M_{0/}$, produce a **mesh** M , of the same topological type as $M_{0/}$, that fits the data well...

... the competing desires of conciseness of representation and fidelity to the data. We show that **mesh** optimization can be effectively used in at least two applications: surface reconstruction from unorganized points, and **mesh** simplification (the reduction of the number of vertices in an initially dense **mesh** of **triangles**).

...Descriptors: **mesh** generation

Identifiers: **mesh** optimization...

... **mesh** simplification

?

File 344:Chinese Patents Abs Aug 1985-2003/Jan

(c) 2003 European Patent Office

File 347:JAPIO Oct 1976-2002/Dec(Updated 030402)

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File 350:Derwent WPIX 1963-2003/UD,UM &UP=200325

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Set	Items	Description
S1	21189	(RENDER? OR CREAT? OR GENERAT? OR COMPOS?) AND GRAPHIC?
S2	1056	(POLYGON? OR TRIANGLE?) AND MESH?
S3	8082	(SILHOUETTE OR SHARP OR DISCONTINUITY?) AND EDGES
S4	67	(DELET? OR OMITTING OR EDIT?) AND CONCAVE
S5	1014	(DETECT? OR FIND? OR LOCAT? OR SORT OR SORTING) AND S3
S6	144	OVERDRAW? OR OVER()DRAW?
S7	162	(ANTIALIAS? OR ANTI-ALIAS?) AND IMAGE?
S8	0	CRAWLING()JAGGIES
S9	10479	(BLEND? OR SHADING OR SMOOTH?) AND EDGES
S10	425	AU=(SANDER, P? OR SANDER P? OR HOPPE H? OR HOPPE, H? OR SN- YDER, J? OR SNYDER J? OR GORTLER S? OR GORTLER, S?)
S11	131788	IC=(G06T? OR G06G?)
S12	0	S1 AND S2 AND S3
S13	46	S1 AND S2
S14	0	S13 AND S6
S15	35	S13 AND S11
S16	0	S15 AND S4
S17	0	S15 AND S7
S18	3	S15 AND S9
S19	0	S15 AND SILHOUETTE
S20	2	S15 AND S10
S21	5	S2 AND S10
S22	3	S21 NOT S20

8/3,K/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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012347937 **Image available**
WPI Acc No: 1999-154044/199913
XRPX Acc No: N99-111010

Specification of smooth scalar field on arbitrary polygon mesh
Patent Assignee: PIXAR ANIMATION STUDIOS (PIXA-N)
Inventor: DEROSE A D; KASS M; TRUONG T G
Number of Countries: 082 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9906958	A1	19990211	WO 98US15703	A	19980729	199913 B
AU 9886687	A	19990222	AU 9886687	A	19980729	199927
US 6037949	A	20000314	US 97905434	A	19970804	200020
EP 1000409	A1	20000517	EP 98938083	A	19980729	200028
			WO 98US15703	A	19980729	

Priority Applications (No Type Date): US 97905434 A 19970804
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9906958	A1	E	38	G06T-015/10	
Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW					
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
EP 1000409	A1	E		G06T-015/10	Based on patent WO 9906958
Designated States (Regional): DE FR GB IT NL					
AU 9886687	A			G06T-015/10	Based on patent WO 9906958
US 6037949	A			G06T-015/00	

Specification of smooth scalar field on arbitrary polygon mesh

Abstract (Basic):

... An assignment of **smoothly** varying articulation weights over the control points of a model more efficiently defines the transformation of a highly detailed object or character under specific animation control. An assignment of **smoothly** varying local parameters specifies a local behavior of dynamic or quasi static objects or surfaces.

... The methods are used for modeling an object in computer **graphics** or computer animation...

...The method includes a modification of the subdivision algorithm to allow the modeling and **rendering** of **edges** and creases of arbitrary and continuously variable sharpness which occur for example in human bodies

...Title Terms: **SMOOTH** ;
International Patent Class (Main): G06T-015/00 ...

... G06T-015/10

18/3,K/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011417839

WPI Acc No: 1997-395746/199737

Related WPI Acc No: 1997-353022; 1997-387699; 1997-395747

XRPX Acc No: N97-329344

Creating smooth transition between polygonal meshes in computer graphics geometric modelling - selecting coarser and finer meshes and vertex split transformations, evaluating geo-morph having vertices with connectivity of finer mesh at several values of blend parameter, and displaying object

Patent Assignee: MICROSOFT CORP (MICR-N)

Inventor: HOPPE H H

Number of Countries: 003 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 789329	A2	19970813	EP 97100126	A	19970107	199737 B

Priority Applications (No Type Date): US 96586953 A 19960111

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
EP 789329	A2	E		

Designated States (Regional): DE FR GB

Creating smooth transition between polygonal meshes in computer graphics geometric modelling...

...selecting coarser and finer meshes and vertex split transformations, evaluating geo-morph having vertices with connectivity of finer mesh at several values of blend parameter, and displaying object

...Abstract (Basic): The method involves simplifying an arbitrary initial mesh with several vertices and a connectivity of the vertices defining the edges between connected pairs of the vertices and faces defined by several connected edges for representing multi-dimensional objects with computer graphics .

...

...An edge of the mesh is chosen. An edge collapse transformation is performed on the edge to produce a simpler mesh where the pair of vertices connected by the edge is replaced by the edge collapse...

...a single vertex. Several iterations are performed of the previous steps to produce a base mesh with the desired level of detail...

...USE/ADVANTAGE - For computer graphics and to techniques for optimising display, storage and transmission of varying level of detail polygonal mesh models. Allows geo-morphs between any two levels of detail meshes with different discrete attributes.

Title Terms: SMOOTH ;

International Patent Class (Main): G06T-017/20

18/3,K/3 (Item 3 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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010205722 **Image available**

WPI Acc No: 1995-106976/199514

XRPX Acc No: N95-084594

Smooth low degree polynomial spline surfaces over irregular mesh generating - simplifying initial mesh to produce second mesh again subject to constrained refinement for construction of final new mesh to be broken into quad nets

Patent Assignee: APPLE COMPUTER INC (APPY)
Inventor: LOOP C
Number of Countries: 002 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9506291	A1	19950302	WO 94US9573	A	19940826	199514 B
AU 9476039	A	19950321	AU 9476039	A	19940826	199526
US 5602979	A	19970211	US 93113617	A	19930827	199712
			US 95573583	A	19951215	

Priority Applications (No Type Date): US 93113617 A 19930827; US 95573583 A 19951215

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9506291	A1	E	44	G06F-017/20	
AU 9476039	A			G06F-017/20	Based on patent WO 9506291
US 5602979	A		17	G06T-017/00	Cont of application US 93113617

Smooth low degree polynomial spline surfaces over irregular mesh
generating - ...

...simplifying initial mesh to produce second mesh again subject to
constrained refinement for construction of final new mesh to be broken
into quad nets

...Abstract (Basic): The process involves defining an irregular control
mesh to represent a polygonal surface. A second control mesh of
predictable structure is constructed such that vertices, faces and
edges of the second mesh correspond to vertices, faces and edges
of the first regular mesh. The second mesh is refined and a third
refined mesh is constructed with vertices according to a
predetermined rule...

...The method further involves breaking the third mesh into a set of
quad-nets corresponding to each of the vertices of the third refined
mesh. Finally four triangular patches are constructed using the quad
nets as a local geometry...

...g. faster surface-surface or ray-surface intersection for growing
demands in field of computer graphics.

...Abstract (Equivalent): A computer implemented process for generating
smooth low degree polynomial spline surfaces over irregular meshes
to display aesthetically pleasing images on a display monitor, the
process comprising...

...defining an irregular control mesh to represent a polygonal surface
...

...constructing a control mesh of predictable structure, such that
vertices, faces and edges of said control mesh of predictable
structure are generated using vertices, faces and edges of said
irregular control mesh;
...

...refining the control mesh of predictable structure to construct a
refined mesh with vertices and at least one non-4-sided face
according to a predetermined rule, said refined mesh vertices
including a non-boundary vertex which is of order 4 with three incident
4...

...breaking the refined **mesh** into a plurality of quad-nets corresponding to selected vertices of said refined **mesh** , at least one of said quad-nets corresponding to the non-boundary vertex; and

Title Terms: **SMOOTH** ;

...International Patent Class (Main): **G06T-017/00**

?

20/3,K/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011417840

WPI Acc No: 1997-395747/199737

Related WPI Acc No: 1997-353022; 1997-387699; 1997-395746

XRPX Acc No: N97-329345

Geometric modelling using polygonal meshes for computer graphics -
forming refined mesh as initial coarse level of detail from base mesh
record, checking if refinement transformation meets criteria and applying
refinement to increase level of detail and rendering

Patent Assignee: MICROSOFT CORP (MICR-N)

Inventor: HOPPE H H

Number of Countries: 003 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 789330	A2	19970813	EP 97100141	A	19970107	199737 B

Priority Applications (No Type Date): US 96586953 A 19960111

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
EP 789330	A2	E		

Designated States (Regional): DE FR GB

Geometric modelling using polygonal meshes for computer graphics -
...

...forming refined mesh as initial coarse level of detail from base mesh
record, checking if refinement transformation meets criteria and
applying refinement to increase level of detail and rendering

Inventor: HOPPE H H

...Abstract (Basic): The method involves simplifying an arbitrary initial
mesh with several vertices and a connectivity of the vertices defining
the edges between connected pairs...

...vertices and faces defined by several connected edges for representing
multi-dimensional objects with computer graphics .
...

...An edge of the mesh is chosen. An edge collapse transformation is
performed on the edge to produce a simpler mesh where the pair of
vertices connected by the edge is replaced by the edge collapse...

...a single vertex. Several iterations are performed of the previous steps
to produce a base mesh with the desired level of detail...

...USE/ADVANTAGE - For computer graphics and techniques for optimising
display, storage and transmission of varying level of detail polygonal
mesh models. Allows geo-morphs between any two levels of detail
meshes with different discrete attributes.

...Title Terms: POLYGONAL ;

International Patent Class (Main): G06T-017/20

20/3,K/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011417839

WPI Acc No: 1997-395746/199737

Related WPI Acc No: 1997-353022; 1997-387699; 1997-395747
XRPX Acc No: N97-329344

Creating smooth transition between polygonal meshes in computer graphics geometric modelling - selecting coarser and finer meshes and vertex split transformations, evaluating geo-morph having vertices with connectivity of finer mesh at several values of blend parameter, and displaying object

Patent Assignee: MICROSOFT CORP (MICR-N)

Inventor: HOPPE H H

Number of Countries: 003 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 789329	A2	19970813	EP 97100126	A	19970107	199737 B

Priority Applications (No Type Date): US 96586953 A 19960111

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
EP 789329	A2	E		

Designated States (Regional): DE FR GB

Creating smooth transition between polygonal meshes in computer graphics geometric modelling...

...selecting coarser and finer meshes and vertex split transformations, evaluating geo-morph having vertices with connectivity of finer mesh at several values of blend parameter, and displaying object

Inventor: HOPPE H H

...Abstract (Basic): The method involves simplifying an arbitrary initial mesh with several vertices and a connectivity of the vertices defining the edges between connected pairs...

...vertices and faces defined by several connected edges for representing multi-dimensional objects with computer graphics .

...

...An edge of the mesh is chosen. An edge collapse transformation is performed on the edge to produce a simpler mesh where the pair of vertices connected by the edge is replaced by the edge collapse...

...a single vertex. Several iterations are performed of the previous steps to produce a base mesh with the desired level of detail...

...USE/ADVANTAGE - For computer graphics and to techniques for optimising display, storage and transmission of varying level of detail polygonal mesh models. Allows geo-morphs between any two levels of detail meshes with different discrete attributes.

...Title Terms: POLYGONAL ;

International Patent Class (Main): G06T-017/20

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22/3,K/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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014612676 **Image available**
WPI Acc No: 2002-433380/200246
XRPX Acc No: N02-340968

Data structure generation method for computer graphics system, involves performing edge collapse transformation on mesh generated beforehand to yield vertex with associated geometric position and appearance attribute

Patent Assignee: MICROSOFT CORP (MICT)

Inventor: HOPPE H

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6362820	B1	20020326	US 99339640	A	19990624	200246 B

Priority Applications (No Type Date): US 99339640 A 19990624

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6362820	B1	18	G06F-015/00	

Data structure generation method for computer graphics system, involves performing edge collapse transformation on mesh generated beforehand to yield vertex with associated geometric position and appearance attribute

Inventor: HOPPE H

Abstract (Basic):

... A mesh representing an object is created, by performing an edge collapse transformation on a mesh generated beforehand to yield a vertex (86') having geometric position P and appearance attribute S

... It directs to simplifying triangle meshes with appearance attributes, thereby producing more accurate simplifications. Less storage is used because space complexity...

...The figure shows a portion of initial and resulting triangle meshes illustrating two inverse mesh transformations, an edge collapse operation, and a vertex split operation...

...Title Terms: MESH ;

22/3,K/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003 Thomson Derwent. All rts. reserv.

011409792 **Image available**
WPI Acc No: 1997-387699/199736
Related WPI Acc No: 1997-353022; 1997-395746; 1997-395747
XRPX Acc No: N97-322683

Method representing 3D geometric object with polygonal meshes at varying detail levels - specifies sequence of sets of mesh refinement transformations applied successively to mesh to produce succession of polygonal meshes that approximate three dimensional geometric object at progressively finer levels of detail

Patent Assignee: MICROSOFT CORP (MICR-N)

Inventor: HOPPE H H

Number of Countries: 003 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
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EP 788072 A2 19970806 EP 97100140 A 19970107 199736 B

Priority Applications (No Type Date): US 96586953 A 19960111

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
EP 788072 A2 E 44

Designated States (Regional): DE FR GB

Method representing 3D geometric object with polygonal meshes at varying detail levels...

...specifies sequence of sets of mesh refinement transformations applied successively to mesh to produce succession of polygonal meshes that approximate three dimensional geometric object at progressively finer levels of detail

Inventor: HOPPE H H

...Abstract (Basic): The method specifies a base polygonal mesh with several vertices and several faces that approximates the three dimensional geometric object at a coarse level of detail. A sequence of sets of mesh refinement transformations are specified. When these are applied successively to the mesh, they produce a succession of polygonal meshes that approximate the three dimensional geometric object at progressively finer levels of detail (fig 8...

...The sets of mesh refinement transformations are complete. One of the mesh refinement transformations is a vertex split transformation when when applied to a preceeding polygonal mesh in the succession splits an ancestor vertex of the preceding mesh into two descendent vertices to produce a nest polygonal mesh in the succession such that the next mesh has one more vertex and from one to two more faces than the preceding mesh .

...

...USE - Relates to geometric modeling using polygonal meshes for computer graphics and to techniques for optimising display, storage and transmission of varying levels of detail polygonal mesh models...

...ADVANTAGE - Allows geomorphs between any two levels of detail meshes with different discrete attributes, which has not been possible before

...Title Terms: POLYGONAL ;

22/3,K/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011375115 **Image available**

WPI Acc No: 1997-353022/199733

Related WPI Acc No: 1997-387699; 1997-395746; 1997-395747

XRPX Acc No: N97-292484

Method simplifying arbitrary initial mesh with several connected vertices - involves performing edge collapse transformation on chosen edge to give simpler mesh where pair of vertices connected by edge is replaced by transformation with single vertex

Patent Assignee: MICROSOFT CORP (MICR-N); MICROSOFT CORP (MICT)

Inventor: HOPPE H H ; HOPPE HUGHES H

Number of Countries: 006 Number of Patents: 013

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 784295	A2	19970716	EP 97100127	A	19970107	199733 B

JP 9198524	A	19970731	JP 973755	A	19970113	199741
CA 2194833	A	19970711	CA 2194833	A	19970110	199747
CA 2194834	A	19970712	CA 2194834	A	19970110	199747
CA 2194835	A	19970711	CA 2194835	A	19970110	199747
CA 2194836	A	19970711	CA 2194836	A	19970110	199747
US 5929860	A	19990727	US 96586953	A	19960111	199936
			US 97797502	A	19970207	
US 5963209	A	19991005	US 96586953	A	19960111	199948
US 5966133	A	19991012	US 96586953	A	19960111	199949
			US 97797501	A	19970207	
US 6046744	A	20000404	US 96586953	A	19960111	200024
			US 97797781	A	19970207	
CA 2194835	C	20001024	CA 2194835	A	19970110	200059
CA 2194836	C	20010911	CA 2194836	A	19970110	200156
CA 2194834	C	20010911	CA 2194834	A	19970110	200156

Priority Applications (No Type Date): US 96586953 A 19960111; US 97797502 A 19970207; US 97797501 A 19970207; US 97797781 A 19970207

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 784295	A2	E	49	G06T-017/20	
Designated States (Regional): DE FR GB					
JP 9198524	A		43	G06T-015/00	
CA 2194833	A			G06T-017/20	
CA 2194834	A			G06T-017/20	
CA 2194835	A			G06T-017/20	
CA 2194836	A			G06T-017/20	
US 5929860	A			G06T-017/00	Cont of application US 96586953
US 5963209	A			G06T-017/00	
US 5966133	A			G06T-017/00	Cont of application US 96586953
US 6046744	A			G06T-017/00	Cont of application US 96586953
CA 2194835	C	E		G06T-017/20	
CA 2194836	C	E		G06T-017/20	
CA 2194834	C	E		G06T-017/20	

Method simplifying arbitrary initial mesh with several connected vertices...

...involves performing edge collapse transformation on chosen edge to give simpler mesh where pair of vertices connected by edge is replaced by transformation with single vertex

Inventor: HOPPE H H ...

... HOPPE HUGHES H

...Abstract (Basic): The method involves simplifying an arbitrary initial mesh with several vertices and a connectivity of the vertices defining the edges between connected pairs...

...An edge of the mesh is chosen. An edge collapse transformation is performed on the edge to produce a simpler mesh where the pair of vertices connected by the edge is replaced by the edge collapse...

...a single vertex. Several iterations are performed of the previous steps to produce a base mesh with the desired level of detail...

...graphics and to techniques for optimising display, storage and transmission of varying level of detail polygonal mesh models. Allows geomorphs between any two levels of detail meshes with different discrete attributes...

...Title Terms: MESH ;
?

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Set	Items	Description
S1	10035	(RENDER? OR CREAT? OR GENERAT? OR COMPOS?) AND GRAPHIC?
S2	54	(POLYGON? OR TRIANGLE?) AND MESH?
S3	5	(SILHOUETTE OR SHARP OR DISCONTINUITY?) AND EDGES
S4	0	(DELET? OR OMITTING OR EDIT?) AND CONCAVE
S5	3	(DETECT? OR FIND? OR LOCAT? OR SORT OR SORTING) AND S3
S6	9	OVERDRAW? OR OVER()DRAW?
S7	50	(ANTIALIAS? OR ANTI-ALIAS?) AND IMAGE?
S8	0	CRAWLING()JAGGIES
S9	1914	BLEND? OR SHADING OR SMOOTH?
S10	65	AU=(SANDER, P? OR SANDER P? OR HOPPE H? OR HOPPE, H? OR S- NYDER, J? OR SNYDER J? OR GORTLER S? OR GORTLER, S?)
S11	0	S1 AND S2 AND S3
S12	0	S1 AND S2 AND S6
S13	0	S2 AND S10
S14	41	S1 AND S7
S15	1	S14 AND S2
S16	6	S14 AND (SILHOUETTE OR EDGES)
S17	6	S16 NOT S15

15/3,K/1

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.
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00120867

DOCUMENT TYPE: Review

PRODUCT NAMES: 3ds max 3 (045128)

TITLE: 3D Studio Max R3: A powerful revision to a popular modeling and...

AUTHOR: Maestri, George

SOURCE: Computer Graphics World, v22 n10 p69(1) Oct 1999

ISSN: 0271-4159

HOME PAGE: <http://www.cgw.com>

RECORD TYPE: Review

REVIEW TYPE: Review

GRADE: A

REVISION DATE: 20021125

...overall, especially for its low cost and excellent price/performance value. The new interface and **renderer** and many other improvements and tools in the product make 3D Studio MAX R3 a...

...the modeling interface to ease switching between subobject levels, and the feature set in the **polygonal** modeler now includes face beveling and edge chamfering tools. The totally redesigned **renderer** is a particularly impressive new feature in which **antialiasing** is done via plug-ins that allow use of many visual styles in scenes. For example, the Oren-Nayar Blinn shader **creates** gorgeously soft surfaces. Raytracing is also enhanced to provide much faster **rendering**. Most **rendering** effects are now part of the **renderer** instead of the video post-production process, so that setup and **rendering** a shot with multiple effects is easier and faster. New character animation features include Skin, a **mesh** deformation tool; Morpher, a multiple-target facial animation morph utility; and the new version of **MeshSmooth**, for subdividing simple **polygonal** models into smooth surfaces.

DESCRIPTORS: 3D Graphics ; Animation; Graphics Tools; Image
Processing; Models

?

17/3,K/1

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.
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00119935 DOCUMENT TYPE: Review

PRODUCT NAMES: Macromedia Flash 4 (664715)

TITLE: Flash 4

AUTHOR: Long, Ben

SOURCE: Macworld, p35(1) Oct 1999

ISSN: 0741-8647

HOME PAGE: <http://www.macworld.com>

RECORD TYPE: Review

REVIEW TYPE: Review

GRADE: B

REVISION DATE: 20001130

...sites with animations but may not have Java-scripting abilities. Flash allows the user to **create** compact, streaming Web animations that can easily be viewed on just about all platforms. It...

...vector-based, so that its animation files are tiny and download quickly. The Flash player **renders** vectors into bitmaps with smoothed, **antialiased edges**, and can show them on the screen. Flash's interface has many modifications, including a...

...points of illustration products such as Macromedia FreeHand and Adobe Illustrator. Instead, users simply drag **edges** to reshape an object. The drawing interface has default shift- selection of multiple objects and...

...and IF/ELSE commands are among many new actions and tools provided that make interface **creation** easier and allow users to add interactivity without using JavaScript.

DESCRIPTORS: Animation; Apple Macintosh; Authoring Systems; Electronic Publishing; Flash; **Graphics** Tools; **Image** Processing; Internet Utilities; MacOS; Web Site Design

17/3,K/2

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.
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00106830 DOCUMENT TYPE: Review

PRODUCT NAMES: Extensis Mask Pro (681709); Magic Mask (676713)

TITLE: Mask-making made easy

AUTHOR: London, Sherry

SOURCE: Electronic Publishing Magazine, v21 n12 p66(2) Dec 1997

ISSN: 1097-9190

HOME PAGE: <http://www.electronic-publishing.com>

RECORD TYPE: Review

REVIEW TYPE: Product Comparison

GRADE: Product Comparison, No Rating

REVISION DATE: 20021226

Extensis's MaskPro and Chroma **Graphics** ' Magic Mask are two recommended filter sets. The tools assist Photoshop users in masking, which...

...not used, Photoshop users can use a combination of Marquee, Lasso, and Magic Wand to **create** a selection outline. They also can use a brush in QuickMask mode or a channel...

...to use as the basis for the mask. They can use the Pen tool and **create** a Bezier outline around the **image**, or use the Color Range command to develop a mask that contains density. Other options...

...Lasso that uses an edge-finding algorithm to find areas where a sharp change in **image** color takes place. During testing, users found that MagicMask did not **create antialiased** or semitransparent **edges**, although a companion filter, EdgeWizard, will soon be available in a few months to perform this task. One of MaskPro's best features is its ability to **create** clipping paths from short straight lines that will not **generate** PostScript errors.

...COMPANY NAME: 593028); Chroma **Graphics** Inc...

DESCRIPTORS: Artists; Draw; **Graphic** Arts; **Graphics** Tools; **Image** Processing; Paint

17/3,K/3

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.

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00091897 DOCUMENT TYPE: Review

PRODUCT NAMES: **LightningDraw GX** (578533)

TITLE: **LightningDraw GX**

AUTHOR: Sellers, Dennis

SOURCE: Computer Artist, v5 n3 p45(3) Apr/May 1996

ISSN: 1063-312X

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

REVISION DATE: 20001130

Lari Software's LightningDraw GX QuickDraw GX-based illustration program for the Macintosh provides a **graphical** user interface (GUI) that supports a new **graphics creation** paradigm. LightningDraw focuses less on such features as Bezier curves, and makes GX a good basis for tools that support **creativity**. LightningDraw's market, says Lari Software President Humayan Lari, is the user who cannot use current tools to **create** desired artistic effects. Many vector-based draw tools are provided, including those with painting features...

...Photoshop-type transparency, shading, and tints; the InConcert feature for combined drawing/painting; and strong **antialiasing** for eliminating jagged **edges**. Users also like the ability to store files in the GX PICT format, for better...

DESCRIPTORS: Apple Macintosh; Artists; Draw; **Graphics** Tools; **Image**

Processing; MacOS; Paint

17/3,K/4

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.
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00078700 DOCUMENT TYPE: Review

PRODUCT NAMES: Digital Video (830268)

TITLE: Come Together: Compositing 3-D & Video
AUTHOR: Anderson, Scott
SOURCE: Digital Video Magazine, v3 n4 p42(5) Apr 1995
ISSN: 1075-251X
HOMEPAGE: <http://www.dv.com>

RECORD TYPE: Review
REVIEW TYPE: Product Analysis
GRADE: Product Analysis, No Rating

REVISION DATE: 20010730

TITLE: Come Together: Compositing 3-D & Video

Compositing is one of the most useful effects available. Chromakeying is used to **create** live actors and a computer-**generated** set. One of the trickiest parts is selecting colors that match the background, yet provide ...

...screen, or adding an amber backlight. A good way to combine live action with computer **graphics** is rotoscoping in 3D. This requires a digitized video to be specified as the texture for a given 3D object. By **antialiasing** the result, **edges** will be realistically **rendered** to avoid the blue screen outlines. Shadows are a difficult, but necessary part of most productions that add an extra element of reality. The first problem to overcome in **creating** shadows is that if a blue screen is being used, the shadows will also be blue. To avoid it, the blue must be subtracted out to make a gray-scale **image**, then the gray is used for **compositing**.

DESCRIPTORS: 3D Graphics ; Digital Video; Graphics Tools

17/3,K/5

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.
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00067030 DOCUMENT TYPE: Review

PRODUCT NAMES: Image -In Professional (355143); Adobe Photoshop 3.0 (213756); Altamira Composer (442593); Painter X2 Extension (470775)

TITLE: Photo Manipulation: The Art of Illusion
AUTHOR: Popovic, Mike
SOURCE: Imaging Magazine, v3 n8 p52(14) Aug 1994
ISSN: 1083-2912
HOMEPAGE: <http://www.imagingmagazine.com>

RECORD TYPE: Review
REVIEW TYPE: Product Comparison

GRADE: Product Comparison, No Rating

REVISION DATE: 20001130

PRODUCT NAMES: Image -In Professional...

...213756); Altamira Composer (

Image -In Professional, a low-priced entry-level product, provides easy-to-use, full functioned tools...

...to-vector conversion tool. Adobe Photoshop 3.0 offers the customarily excellent draw, paint, and image manipulation tool, and this release adds enhanced composition, editing, and production tools for Mac and Microsoft Windows users. Color correction controls preserve color when images are adjusted for CMYK output. Altamira Composer, an image composition tool, allows many images to form a composition, which can be made to appear as one picture using Dynamic Alpha technology. Dynamic Alpha creates smooth, antialiased edges for images. Design Painter X2 supports photos as art, with many brushes, CMYK four-color separation, and ...

COMPANY NAME: Image -In Inc...

DESCRIPTORS: Apple Macintosh; Color Separation; Draw; File Conversion; Graphics Tools; IBM PC & Compatibles; Image Processing; MacOS; Photography; Photoshop; Windows

17/3,K/6

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.

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00065658 DOCUMENT TYPE: Review

PRODUCT NAMES: trueSpace Windows (502111)

TITLE: True 3D on the PC

AUTHOR: Belleville, Laureen

SOURCE: Computer Graphics World, v17 n5 p11(1) May 1994

ISSN: 0271-4159

HOME PAGE: <http://www.cgw.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

REVISION DATE: 20010730

...provides PC users with a 3D workspace and real-time interaction. Complex objects can be created by combining primitive shapes and manipulating them with deformation tools, which allow for twisting, bending, and other operations. Single-point editing tools allow for moving points, edges, and parts of objects. A hierarchy feature connects parts, and ray tracing is offered for creating refractions and reflections. TrueSpace's materials library can be utilized to layer various textures onto objects. The software offers antialiasing and tools for incorporating shadows, fog, and other environmental effects. The program includes a visual time editor for creating animations directly, and motion can be smoothed out using a spline-based path. Animation can...

DESCRIPTORS: 3D Graphics ; Animation; Digital Video; Graphics Tools;

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Set Items Description

S1	142979	(RENDER? OR CREAT? OR GENERAT? OR COMPOS?) (5N)GRAPHIC?
S2	1059	(POLYGON? OR TRIANGLE?) (5N)MESH?
S3	9504	(SILHOUETTE OR SHARP OR DISCONTINUITY?) (5N)EDGES
S4	7	(DELET? OR OMITTING OR EDIT?) (5N)CONCAVE
S5	49	(DETECT? OR FIND? OR LOCAT? OR SORT OR SORTING) (3N)S3
S6	8094	OVERDRAW? OR OVER()DRAW?
S7	335	(ANTIALIAS? OR ANTI-ALIAS?) (5N)IMAGE?
S8	0	CRAWLING() JAGGIES
S9	8564	(BLEND? OR SHADING OR SMOOTH?) (5N)EDGES
S10	2884	AU=(SANDER, P? OR SANDER P? OR HOPPE H? OR HOPPE, H? OR SN- YDER, J? OR SNYDER J? OR GORTLER S? OR GORTLER, S?)
S11	0	S1(S)S2(S)S3
S12	0	S1(S)S4
S13	6	S2(S) (S3 OR S5)
S14	0	S13(S) (S6 OR S7)
S15	2	S13(S)S9
S16	1	RD S15 (unique items)
S17	0	S2 AND S10
S18	0	S1 AND S10
S19	0	S3 AND S10
S20	11	MICROSOFT(S)S2
S21	11	S20 NOT PY=>2002
S22	8	RD S21 (unique items)
S23	7	S2(S)S9
S24	5	S23 NOT (S13 OR S21)
S25	4	RD S24 (unique items)

16/3,K/1 (Item 1 from file: 275)
DIALOG(R) File 275:Gale Group Computer DB(TM)
(c) 2003 The Gale Group. All rts. reserv.

01703798 SUPPLIER NUMBER: 16219896 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Interactive 3D modeling in Windows. (Caligari's TrueSpace for Windows
rendering software) (Software Review) (Evaluation)
Morrison, Mike
Computer Graphics World, v17, n8, p73(2)
August, 1994
DOCUMENT TYPE: Evaluation ISSN: 0271-4159 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 1224 LINE COUNT: 00093

... Additionally, you can subdivide any 3D object or individual 3D face
into a higher-resolution **polygon .mesh**, with any **sharp edges**
subdividing into **smooth** curves. For instance, you can take a cube and by
continually clicking on the subdivide...
?

22/3,K/1 (Item 1 from file: 20)
DIALOG(R)File 20:Dialog Global Reporter
(c) 2003 The Dialog Corp. All rts. reserv.

12683752 (USE FORMAT 7 OR 9 FOR FULLTEXT)
MultiGen-Paradigm Announces MultiGen Creator 2.4 and Vega 3.5
PR NEWSWIRE
September 05, 2000
JOURNAL CODE: WPRW LANGUAGE: English RECORD TYPE: FULLTEXT
WORD COUNT: 997

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... eliminates the need to allocate large amounts of memory when dealing with large audio files * **Microsoft** Windows(R) 2000 Professional Support -- enables updated audio functionality and support for the next generation...

22/3,K/2 (Item 1 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
(c) 2003 The Gale Group. All rts. reserv.

01934562 SUPPLIER NUMBER: 18237277 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Microsoft brings Softimage 3D V3.0 to NT. (Software Review) (Evaluation)
Forcade, Tim
Computer Graphics World, v19, n4, p65(2)
April, 1996
DOCUMENT TYPE: Evaluation ISSN: 0271-4159 LANGUAGE: English
RECORD TYPE: Fulltext; Abstract
WORD COUNT: 1446 LINE COUNT: 00119

TEXT:

When **Microsoft** introduced V3.0 of Softimage 3D last year, it added a number of features to its already comprehensive modeling, animation, and rendering program. Some of those include NURBS geometry, improved **polygonal mesh** modeling, expressions and constraints for mathematical control of object behavior, optional Mental Ray rendering, and...

22/3,K/3 (Item 1 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
(c) 2003 The Gale Group. All rts. reserv.

05049046 Supplier Number: 74937473 (USE FORMAT 7 FOR FULLTEXT)
SOFTWARE NEWS.
Rapid Prototyping Report, pNA
Feb, 2001
Language: English Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 418

... as coordinate-measuring machines, Faro digitizers, laser scanners, and optical scanners and convert them to **polygon - mesh** files in OBJ, STL, or PFF (Paraform's data structure) formats. Points2Polys also lets users triangulation resolution for different parts of a scan. The software runs under **Microsoft** 's NT 4.0 or Windows 2000 operating systems and requires a Pentium II/III...

22/3,K/4 (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2003 The Gale Group. All rts. reserv.

07045217 Supplier Number: 57782467 (USE FORMAT 7 FOR FULLTEXT)
Product Focus. (Product Announcement)
Computer-Aided Engineering, v18, n4, p71
April, 1999
Language: English Record Type: Fulltext
Article Type: Product Announcement
Document Type: Magazine/Journal; Academic Trade
Word Count: 1197

... exported in the ACIS SAT file format standard. Features: Displays models as shaded, wireframe, or **polygonal mesh**. Combines shaded and edge views in a single model display or sets each view in...

...Reads, writes, and converts SAT models from ACIS 1.6 and later versions. Compatible with **Microsoft** Office. Also includes hidden-line viewing and an improved user interface. Platforms: Windows 9X/NT...

22/3,K/5 (Item 2 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2003 The Gale Group. All rts. reserv.

05586486 Supplier Number: 48456684 (USE FORMAT 7 FOR FULLTEXT)
3D FOR GAMES
Ratcliff, John W.
Interactivity, p28
May, 1998
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 2366

... own development efforts, I've created a tool that lets the artist walk through a **mesh** and see the number of **polygons** inside the view volume versus those that would be displayed after visibility culling. This way...

22/3,K/6 (Item 1 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2003 The Gale Group. All rts. reserv.

08518625 SUPPLIER NUMBER: 18061037 (USE FORMAT 7 OR 9 FOR FULL TEXT)
3-D APIs set to face off. (Apple's QuickDraw 3D Rave graphics software, and Microsoft's Direct3D API for 3D graphics developers) (Technology Information)
Yoshida, Junko; Wilson, Ron
Electronic Engineering Times, n891, p8(2)
March 4, 1996
ISSN: 0192-1541 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 1418 LINE COUNT: 00112

...ABSTRACT: wait, however: the API combines an enhanced version of the Rendermorphics RealityLab with a simple, **triangle - mesh** 3D API and a thin hardware-abstraction layer (HAL), both of which are integrated into DirectX. Direct3D provides a complete, highly modular 3D pipeline in software, according to **Microsoft**, that extends from geometry calculation

to rendering.

22/3,K/7 (Item 1 from file: 610)
DIALOG(R)File 610:Business Wire
(c) 2003 Business Wire. All rts. reserv.

00570649 20010810222B1401 (USE FORMAT 7 FOR FULLTEXT)
SIGGRAPH 2001 Exhibitor Profiles; Conference and Exhibition Opens August
12-17 in Los Angeles
Business Wire
Friday, August 10, 2001 16:06 EDT
JOURNAL CODE: BW LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
DOCUMENT TYPE: NEWSWIRE
WORD COUNT: 5,212

...boxxtech.com
BOXX Technologies is a leading developer and manufacturer of
high-performance, high-bandwidth **Microsoft** Windows NT, Windows 2000
and Linux-based hardware and software solutions for the 3D, animation...Our
Photo Service creates faces from photographs which are compatible
with FaceGen products.
Our Custom **Mesh** Service integrates any **polygonal** head model, hairstyle
or accessory into any FaceGen product.
Company: Steamboat Software, Inc.
Booth: 1967...

22/3,K/8 (Item 1 from file: 696)
DIALOG(R)File 696:DIALOG Telecom. Newsletters
(c) 2003 The Dialog Corp. All rts. reserv.

00604875
3D, and a 'Chrome' Finish Take Center Stage Among Hardware Engineers Inter
active Entertainment Companies Emerge As A Presence
MULTIMEDIA MONITOR
May 1, 1998 DOCUMENT TYPE: NEWSLETTER
PUBLISHER: PHILLIPS BUSINESS INFORMATION
LANGUAGE: ENGLISH WORD COUNT: 1791 RECORD TYPE: FULLTEXT

(c) PHILLIPS PUBLISHING INTERNATIONAL All Rts. Reserv.

TEXT:

...support Fuzion. They said at
minimum the chip will support 11 million anti-aliased lit **meshed**
triangles per second, 1 million anti-aliased true Phong-shaded, bump-
mapped, mip-mapped triangles per...

...s clearly more work to be done, and right now
that's not our focus."

Microsoft Unveils 'Net Multimedia Strategy
ORLANDO- **Microsoft** Corp. [MSFT] plans to give DirectX content
developers the technology foundation they need to distinguish...

...When asked if the strategy is the software giant's response to
Java, Eric Engstrom, **Microsoft** general manager of Internet multimedia,
said the programming language was not even on his mind...

...demonstrations

were any indication of what's to come, the Windows add-on could help **Microsoft** win over Java developers with the Chrome alternative. The company's motivation-in addition to...

...s a simple way to get more real estate on the page," said Bob Heddle, **Microsoft** 's lead program manager for Chrome. And Chrome will give developers a way to augment said the company's plans for distributing the product are not definite, but **Microsoft** will likely make it available as an OEM software bundle for PC vendors. Chrome is...

...next four or five months.
To encourage developers to start building Chrome-plated content soon, **Microsoft** has a tool code-named Spice it will supply them with in the near future...
...directions for Chrome include adding data visualizations to business capabilities, interactive illustrations and 3D interfaces.
(**Microsoft** , 425/882-8080)

Tritech, S3 Chip In For DirectX Upgrade
ORLANDO- **Microsoft** Corp. [MSFT], to drum up more support for its development platform, has licensed technology from...

...designer could gain the recognition needed to become a significant player in the graphics market.
Microsoft will incorporate S3's texture-compression algorithm in DirectX. It's unclear what impact, if...

...announcement.
TriTech has a lucrative business selling analog and mixed-signal ASICs. The company's **Microsoft** connections could spark interest from PC vendors and add-in card makers looking for graphics...

...it can count several well-known companies including Creative Technology Ltd. [CREAF] as customers.
The **Microsoft** licensing agreement calls for TriTech's Pyramid 3D bump-mapping technology to be implemented in...than \$20 compared to \$48 for the Nvidia chip, the TriTech component offers cost advantages.
Microsoft selected the TriTech technology because it supports complex lighting and is computationally efficient. (**Microsoft** , 425/703-9846; S3, 408/588-8023; TriTech, 408/941-1300)

NEC Takes 1394 Wireless...
?

25/3,K/1 (Item 1 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
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01594233 SUPPLIER NUMBER: 13619450 (USE FORMAT 7 OR 9 FOR FULL TEXT)
**Sculpting with computer clay. (Thomson Digital Image's Blob Modeler and
Blob Animator additions to its TDI Explore and TDImage graphics software)
(Product Spotlight) (Product Announcement)**
Belleville, Laureen
Computer Graphics World, v16, n4, p21(1)
April, 1993
DOCUMENT TYPE: Product Announcement ISSN: 0271-4159 LANGUAGE:
ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 407 LINE COUNT: 00035

... over rendering quality.
Key features supported in the Blob Modeler include Boolean operations
for generating **smooth** holes and cavities with soft **edges** ; adaptive
subdivision of Blobs; real-time model checking through instant **polygon
meshing** ; the ability to blend Blobs in different directions and to define
the position, scale, and...

25/3,K/2 (Item 1 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
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05086009 Supplier Number: 78637473 (USE FORMAT 7 FOR FULLTEXT)
RAINDROP GEOMAGIC RISING. (Geomagic Studio 4)
Computer Aided Design Report, pNA
Sept, 2001
Language: English Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 1716

... cloud.
Wrap Enhanced
The Wrap application comes with a speedier algorithm for generating
faceted surfaces. **Polygon meshes** can be edited interactively, for
example, to **smooth** out **edges** . In addition, many of the point processing
and meshing routines have been threaded, enabling them...

25/3,K/3 (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2003 The Gale Group. All rts. reserv.

07089170 Supplier Number: 59698531 (USE FORMAT 7 FOR FULLTEXT)
**3D View : Stand-alone AutoCAD viewer. (from Actify) (Software
Review) (Evaluation)**
CADalyst, v17, n2, p32
Feb, 2000
Language: English Record Type: Fulltext
Article Type: Evaluation
Document Type: Magazine/Journal; Trade
Word Count: 656

... mode, set focus, rotate, scale, translate, and mirror. You can
render parts in wire frame, **triangle mesh** , flat **shading** , **smooth** ,
smooth with **edges** , and hidden line modes. In particular, I like the

ability to render parts in an...

25/3,K/4 (Item 2 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
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05536063 Supplier Number: 48391430 (USE FORMAT 7 FOR FULLTEXT)
Revenge NURBS
Interactivity, p21
April, 1998
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 5821

... NURBS objects, they effectively remain visual representations of mathematical constructs, but the final results are **smoothly** curved surfaces and **edges**. Of course, when rendering time comes, as with any other virtual 3D entity, NURBS objects typically must be converted to **polygon meshes**. Thankfully, with programs that incorporate both NURBS modeling and rendering, this conversion is transparent. In...
?